

App. No. 09/537,948
Art Unit: 2644

Docket No. 1999-0104

In the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A method of deploying filters for use in processing audio signals, comprising:
 - calculating a filter for each of a plurality of frequency bands;
 - determining a distance between coefficients of filters in adjacent frequency bands;
 - and
 - merging filters with a shortest distance between coefficients.
2. (Original) The method of claim 1, wherein said filters are TNS filters.
3. (Original) The method of claim 1, wherein said coefficients are PARCOR coefficients.
4. (Currently Amended) The method of claim 1, wherein said merging involves calculating a new filter for a frequency range ~~consisting of~~ comprising said adjacent frequency bands of said filters with said shortest distance.
5. (Currently Amended) A method of deploying filters for use in processing audio signals, comprising:
 - a) —calculating a filter for each of a plurality of frequency bands;
 - b) —comparing coefficients of filters in adjacent frequency bands to identify a pair of filters with a shortest Euclidean distance between coefficients;
 - c) —merging said pair of filters;

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d) repeating ~~steps a) through e)~~ all previously recited acts until a predetermined number of total filters is reached.

6. (Original) The method of claim 5, wherein said coefficients are PARCOR coefficients.

7. (Currently Amended) The method of claim 5, wherein said merging involves calculating a new filter for a frequency band ~~consisting of~~ comprising said adjacent frequency bands of said filters with said shortest Euclidean distance.

8. (Original) The method of claim 5, further comprising:
after said predetermined number of filters is reached, recalculating at least one of said filters using only those frequencies corresponding to a strongest signal within a frequency range covered by said at least one of said filters; and
using said recalculated filter for an entire extent of said frequency range.

9. (Original) The method of claim 8, wherein said strongest signal is identified based on energy/bin within said frequency range.

10. (Currently Amended) A method of deploying a filter for use in processing audio signals, comprising:

determining a first filter for a first frequency range;
determining a second filter for a second frequency range, said second frequency range including said first frequency range;
calculating a first Euclidean distance using coefficients of said first filter;
calculating a second Euclidean distance between the coefficients of said first filter

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and coefficients of said second filter;

calculating a first prediction gain using said first filter;

calculating a second prediction gain between said first filter and said second filter;

and

if said second Euclidean distance is greater than said first Euclidean distance and said second prediction gain is less than said first prediction gain, then deploying said first filter for said first frequency range.

11. (Original) The method of claim 10, wherein said first and second filters are TNS filters.

12. (Original) The method of claim 10, wherein said coefficients are PARCOR coefficients.

13. (New) The method of claim 10, further comprising:

if said second Euclidean distance is not greater than said first Euclidean distance or said second prediction gain is not less than said prediction gain, then performing:

setting said first filter to equal said second filter;

setting said first Euclidean distance to equal said second Euclidean distance;

setting said first prediction gain to equal said second prediction gain;

re-determining the second filter for a new frequency range;

recalculating the second Euclidean distance between coefficients of said first filter and coefficients of said second filter; and

recalculating the second prediction gain between said first filter and said second filter.

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14. (New) The method of claim 1, further comprising:
- clustering the filters into at least two groups; and
 - using a centroid of each of the at least two groups as a final filter for a plurality of frequency ranges covered by each respective one of the at least two groups.
15. (New) A method of deploying a filter for use in processing audio signals, comprising:
- calculating a first Euclidean distance between coefficients of a second filter and coefficients of a first filter, the second filter having a second frequency range including a first frequency range of the first filter;
 - calculating a second Euclidean distance between the coefficients of said second filter and coefficients of a third filter, the third filter having a third frequency range including the second frequency range;
 - calculating a first prediction gain between said first filter and said second filter;
 - calculating a second prediction gain between said second filter and said third filter;
- and
- if said second Euclidean distance is greater than said first Euclidean distance and said second prediction gain is less than said first prediction gain, then deploying said second filter for said second frequency range.